DOCUMENT RESUME

ED 035 403 JC 700 010

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TITLE Patterns of Educational Aspiration.
INSTITUTION American Coll. Testing Program, Iowa City, Iowa. Research and Development Div.
REPORT NO ACT-RR-32
PUB DATE Dec 69
NOTE 23p.

EDRS PRICE EDRS Price MF-$0.25 HC-$1.25
DESCRIPTORS *Aspiration, *Goal Orientation, *Junior Colleges, *Predictive Measurement, *Testing

ABSTRACT

Some college freshman goals are realistic and some not but they are important both developmentally and socially. The adolescent need of a purpose to guide his behavior serves to continue the interests and values that were rewarding in the past and will help him organize his learning in college. Chances for attainment of his goals are enhanced when they are consistent with his talents and resources. If they are not, his frustration and disappointment cause him to "cool out," drop out, or be unhappy. Of two studies of students whose degree aspirations were discrepant with ability or income, the first concerned degree goals either notably lower or unrealistically higher than others with the same measured aptitude, and the second was of those whose family income was inappropriate to their degree goals. Both subgroups were compared with students with more realistic goals, using the demographic and educational data provided in the Student Profile Section of the ACT Battery. Generally the subgroups' characteristics were similar to other students' except in degree of non-academic achievement. From these findings, aspiration appears an important predictor in its own right, being based to some extent on the experience of success in high school. Academic and extracurricular accomplishments both have a notable impact on aspiration, the latter often being a primary area of satisfaction and therefore having a strong effect on the conception of self and ability. (HH)

ACT RESEARCH REPORT

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No. 32

32

December, 1969

ED035403

PATTERNS OF EDUCATIONAL ASPIRATION

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UNIVERSITY OF CALIF.
LOS ANGELES

JAN 05 1970

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JUNIOR COLLEGE
INFORMATION

PUBLISHED BY THE RESEARCH AND DEVELOPMENT DIVISION

THE AMERICAN COLLEGE TESTING PROGRAM

P. O. BOX 168, IOWA CITY, IOWA 52240

JC 700 010

ED035403

Summary

This paper reports two studies about students whose degree aspirations seemed discrepant with their ability or incomes. The first study was concerned with students whose degree goals appeared to be either unrealistically higher or markedly lower than others with their measured academic aptitude. The second study was concerned with students whose family incomes seemed inappropriate to their degree goals. In both studies these subgroups were compared with students whose goals were more "appropriate" using a broad range of demographic and educational information provided in the Student Profile Section of the ACT Battery. In general, students in the subgroups proved quite similar to typical students except in degree of nonacademic achievement.

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Patterns of Educational Aspirations

Leonard L. Baird[1]

College freshmen enter college with many goals and aspirations, some realistic and some unrealistic. These aspirations are important both developmentally and socially. Such writers as Allport (1961), Erikson (1964), and Chickering (1969) have emphasized the adolescent's need of a purpose to guide him and organize his behavior. Such purposes and aspirations serve to continue interests and values that have been rewarding in the past and help to organize learning during the college years. Chances for attainment of these aspirations are enhanced when they are consistent with a student's characteristics, talents, and resources. By implication, if a student's aspirations are incongruent with his talents and resources, we assume he would face frustration and disappointment and would "cool out," drop out, or simply become unhappy.

Study One:

Under-aspirers and Over-aspirers: Students with Discrepant Ability and Aspiration

Since we assume that people lead more satisfying lives when their aspirations and abilities are congruent, we commonly believe that students should attain educational and vocational levels commensurate with their ability. Vocational counseling, scholarship programs, and "talent searches" are organized around this goal. Many students do reach levels of education for which they have the required ability; however, there are still many high-ability students who do not aspire to the levels of education normally attainable by students of their measured academic ability. For a society which wants academically talented doctors, lawyers, and professors, the latter students represent "lost talent".[2] Little is known about this group of "under-aspirers" although much money and effort is spent in "salvaging" them.

There is also a contrasting group of students of low academic ability who seem determined to obtain a high level of education. Even less is known about these "over-aspirers." This study examines the characteristics of over- and under-aspirers and searches for the reasons for their choices. Of course, this area has some of the same problems of definition which effect all studies of "over-achievement" and "under-achievement" (see Thorndike, 1963).

These groups are important beyond the needs of society; students' personal goals and life-patterns are involved. The study of the interrelation of ability and ambition also adds to our understanding of careers, vocational behavior, and ambition. Such information is particularly useful to counselors, since students with discrepant ability and aspirations constitute an important part of their clientele.

The approach taken in this study neither takes into account the confounding effects of measurable interrelated variables (e.g., socio-economic status of the family, local availability of a college, etc.) nor related variables more difficult to assess (e.g., intrinsic motivation toward schoolwork or social pressure from family or peers). However, we feel the following profiles of over- and under-achievers are useful base line data in themselves.

[1]*The author is indebted to Robert H. Fenske for his suggestions and assistance in the preparation of this manuscript.*

[2]*There are many difficulties, however, with this narrow definition of talent (Baird and Holland, 1968). Such talent, furthermore, is not necessarily lost to society, but simply finds fulfillment ultimately through means other than higher education (see Jencks, 1968).*

Method

Sample

A sample of 21,110 students was obtained by taking every 33rd, 66th, and 100th record from the tape of some 750,000 students who took the ACT Battery of college admissions tests between October 1966 and August 1967. The ACT Battery is a nationally administered college admissions and placement battery which includes tests of academic aptitude in English, mathematics, social studies, and natural sciences. It also includes the Student Profile Section, a survey of educational and vocational plans, needs, and achievements.

Formation of the Groups

The students in the sample were categorized by academic ability into four levels, based on their ACT Composite Scores: 14 or less, 15 to 19, 20 to 24, and 25 plus. The mean score within each of these categories corresponded to the 7th, 31st, 63rd, and 92nd percentiles, respectively. Each of these groups was subdivided into four groups according to degree aspiration: junior college degree, bachelor's, master's or equivalent, and professional level degrees (PhD, EdD, LLB, MD, DDS).

We defined over-aspirers as the students who planned a professional level degree, but whose ACT Composite Score was 14 or less. Under-aspirers were the students who planned a junior college degree, but whose ACT Composite Score was 25 or greater.

Statistics

Simple descriptive statistics were used for some information. Gamma was used to measure association in contingency tables (Goodman and Kruskal, 1954). Where appropriate, two-way analysis of variance was employed to compare the effects of aspiration, ability, and interaction, following procedures outlined in Winer (1962). A .01 level of significance was used.

Measures

Academic Measures

Aptitude. The four ACT Tests yielded standard scores which were averaged to obtain ACT Composite Standard Scores. These scores have a mean of 20 and a standard deviation of approximately 5, based on college-bound high school seniors (American College Testing Program, 1965, 1966).

Achievement. High school grades were based on student reports in each of four areas: English, mathematics, social studies, and natural sciences. The following scores were assigned to the grades: A=4, B=3, C=2, D=1, and F=0. These were added and averaged to yield an overall High School Average (HSA). Research has indicated that these high school grades correspond closely to those recorded on official transcripts (American College Testing Program, 1965).

Student Profile Section Data

Nonacademic Achievement Scales. The checklists of extracurricular activities yielded scores in the following areas: science, art, writing, leadership, music, and dramatic art. The score on each scale was

simply the number of accomplishments checked. Students with relatively high scores on any of these scales presumably had attained a high level of accomplishment which required complex skills, long term persistence, or originality. For example, writing items included "work of creative writing published in a public magazine or book" and "had poems, essays or articles published in a school publication."

Educational Subcultural Goals. Using a four point scale, students indicated the degree of importance they attached to 12 educational goals. Each student received a score for his total rating of four types of goals. The ***academic*** goals reflected such cultural desires as increasing the ability to think, intellectual interests, and appreciation of art, music, and literature. The ***vocational*** goals were concerned with discovering one's vocational interest and obtaining the specific skills or academic requirements needed in a profession or job. ***Social*** goals included items dealing with improved skills in interpersonal relationships, leadership, and social capacity. The ***nonconventional*** goals concerned independence and self-reliance, political or social injustice, and the identification of causes to which one can become dedicated. These goals were derived from Trow's (1960) typology of college student subcultures.

Socio-Economic Background. Students were asked in the Student Profile Section to indicate their family income. Those students who considered family income confidential could so indicate without being required to give any other response. The students also indicated the size of their home town community.

Reason for College Choice. Students were asked to rate items influencing their choice of college. The measure used is the percentage of students in each classification who rated the influence as "a major consideration." The items included low cost, proximity to home, high scholastic standards, special curriculum desired, financial aid offer, social opportunities, presence of fraternities and sororities, advice of parents, advice of high school teacher, and advice of high school counselor.

Choice of Major and Vocation. Students were asked to choose from 86 possible fields the one which best described their planned college major and then, from the same list, to indicate their planned vocation.

Results

General

Table 1 shows the number and percentage of students within each ability group who planned various degrees. Very few (1.7 percent) of the most academically talented students planned junior college degrees, while a third of the least academically talented planned such degrees. The majority of the most academically talented students planned some degree beyond a bachelor's, while only about a fifth of the least academically talented planned such degrees. The value of gamma is .379 for this table, indicating a fairly strong positive association between ability and degree aspiration. Thus, this study confirms several others in finding a substantial relationship between these variables.

Location of Home

Table 2 shows the percentage of each group which came from homes on farms or open country or from small towns and cities. There was little relation between academic ability and such backgrounds (gamma = −.032), but students with lower degree goals more often came from rural or small town backgrounds.

TABLE 1

Distribution of Degree Plans within Levels of Academic Ability

	ACT Composite			
Degree Plan	*14 or less*	*15–19*	*20–24*	*25 plus*
Prof.				
% of ability group	7.7	8.1	11.0	19.9
N	257	501	820	833
MA				
% of ability group	14.1	18.3	27.4	37.1
N	471	1128	2039	1555
BA				
% of ability group	43.9	53.6	52.8	41.3
N	1464	3297	3921	1732
JC				
% of ability group	34.3	19.9	8.8	1.7
N	1144	1227	651	70
Total N	3,336	6,153	7,431	4,190

TABLE 2

Background of Students by Academic Ability
Percentage of Students from Farm Communities or Towns Smaller than 50,000 Population

	ACT Composite			
Degree Plan	*14 or less*	*15–19*	*20–24*	*25 plus*
Prof.	39	36	36	35
MA	45	40	37	38
BA	43	44	43	43
JC	47	50	48	51

Academic Achievement

The mean high school grades of students in each group are shown in Table 3. Within each level of ACT Composite Scores, there was an increase in HSA as degree level increased, accounting for the significant F-value (of course, grades were significantly related to academic aptitude). Although the interaction was not significant, the mean HSA of the under-aspirers suggests that they may tend to be under-achievers as well. It is clear that degree aspiration was associated with high school grades; the higher the degree aspiration, the higher the grades.

TABLE 3

Mean High School Grades (HSA)
by Academic Aptitude and Degree Plans

	ACT Composite			
Degree Plan	*14 or less*	*15–19*	*20–24*	*25 plus*
Prof.	2.30	2.37	2.72	3.23
MA	2.23	2.48	2.72	3.17
BA	2.19	2.37	2.63	3.07
JC	2.04	2.23	2.53	2.93

Results of Analysis of Variance

Source	*df*	*F*
A (Degree Plans)	3	58.75*
B (ACT Composite)	3	860.01*
AB	9	2.14

*$p < .01$

Median Family Income

The median family income of each group is shown in Table 4. It is clear that the over-aspirers were not just academically untalented wealthy students. And although their families' incomes were not in the highest category, the under-aspirers did not appear to have chosen low level degrees because of lack of funds. (However, as shown in a later analysis, they, more often than other students, rated "low cost" as an important factor in their college choice.) There was very little relation shown in this table but in general, the higher aptitude students tended to come from somewhat wealthier families. Analysis of variance was not computed on these data because the distribution of family income was highly skewed.

TABLE 4

Background of Students by Degree Plan
Median Family Income

	ACT Composite			
Degree Plan	*14 or less*	*15–19*	*20–24*	*25 plus*
Prof.	$6,200	$8,260	$9,410	$9,665
MA	6,760	8,210	8,660	9,150
BA	6,790	8,150	8,160	8,500
JC	6,250	6,620	7,190	7,550

Nonacademic Accomplishments

The group means on the nonacademic achievement scales are shown in Table 5. The F tests indicated that in general ***only aspirations***, not ability, were related to nonacademic achievement. Both aspiration and ability were related to achievement in writing, with aspiration more strongly related. Neither aspiration nor ability was related to achievement in art or music. None of the interactions were significant. The lack of relation between academic aptitude and nonacademic achievement is supported by other evidence (Baird, 1968).

TABLE 5

Mean Nonacademic Achievement of Students by Degree Aspiration and Academic Aptitude

Area of Achievement	*Degree Plan*	ACT Composite *14 or less*	*15–19*	*20–24*	*25 plus*	*Source*	*df*	*F*
Science	Prof.	1.44	1.11	1.35	1.62			
	MA	.89	.86	.94	1.23	A (Degree Plans)	3	83.24*
	BA	.84	.73	.69	.87	B (ACT Composite)	3	6.65
	JC	.60	.52	.56	.46	AB	9	2.40
Art	Prof.	.91	.85	.81	.62			
	MA	.88	.89	.87	.66	A (Degree Plans)	3	1.12
	BA	.91	.81	.72	.66	B (ACT Composite)	3	5.01
	JC	.78	.74	.65	.75	AB	9	.80
Writing	Prof.	.99	1.37	1.40	1.69			
	MA	1.02	1.01	1.33	1.44	A (Degree Plans)	3	44.08*
	BA	.89	.92	1.00	1.17	B (ACT Composite)	3	26.21*
	JC	.66	.70	.75	1.05	AB	9	1.81
Leadership	Prof.	2.97	2.63	2.83	2.83			
	MA	2.67	2.67	2.51	2.61	A (Degree Plans)	3	72.97*
	BA	2.21	2.10	2.24	2.23	B (ACT Composite)	3	.91
	JC	1.84	1.82	1.76	1.80	AB	9	.62
Music	Prof.	2.07	1.99	1.79	1.91			
	MA	1.97	1.75	1.83	1.76	A (Degree Plans)	3	13.84
	BA	1.48	1.66	1.65	1.72	B (ACT Composite)	3	.21
	JC	1.42	1.42	1.47	1.57	AB	9	.99
Drama	Prof.	2.02	1.67	1.64	1.48			
	MA	1.67	1.50	1.42	1.31	A (Degree Plans)	3	43.53*
	BA	1.39	1.24	1.24	1.17	B (ACT Composite)	3	9.13
	JC	1.08	1.02	1.10	.91	AB	9	.89
Total nonacademic achievement	Prof.	9.17	8.71	8.91	9.29			
	MA	8.16	7.80	8.11	8.41	A (Degree Plans)	3	123.23*
	BA	6.70	6.68	6.85	7.12	B (ACT Composite)	3	2.12
	JC	5.80	5.59	5.71	5.80	AB	9	.19

*$p < .01$

Over-aspirers were clearly talented in nonacademic areas. They had the highest mean scores on the scales of art, leadership, music, and drama, and the second highest mean in science achievement. In contrast, the under-aspirers—students who planned less than a bachelor's degree and had ACT Composites of 25 or greater—had the lowest mean achievement in science and drama, and the second lowest in leadership. Thus, degree aspiration was related to nonacademic success. In comparison with the figures for grades, this result suggests that the over-aspirers (students with low test scores and high degree plans) may have been more influenced by their nonacademic achievement than their academic achievement. At any rate, the over-aspirers had slightly better high school grades and more nonacademic achievements than other students with similarly low test scores.

College Goals

Table 6 shows group means on the college goals. The F values and means on the academic goals indicate differences associated with higher ACT Composite Scores and higher degree aspirations. Under- and over-aspirers did not depart from these trends. There was little trend in the means on vocational goals. Social goals showed slight increases associated with degree plans. The scores on nonconventional goals were significantly related to degree aspirations with under-aspirers scoring the lowest mean on these goals.

TABLE 6

Means on Scales of College Goals by Degree Plans and Academic Aptitude

Type of Goal	*Degree Plan*	ACT Composite *14 or less*	*15–19*	*20–24*	*25 plus*	*Source*	*df*	*F*
Academic	Prof.	6.3	6.6	6.7	6.9	A (Degree Plans)	3	132.14*
	MA	6.4	6.7	6.8	6.9	B (ACT Composite)	3	42.11*
	BA	6.3	6.4	6.5	6.5	AB	9	1.61
	JC	5.7	5.9	6.0	6.2			
Vocational	Prof.	7.0	7.4	7.3	7.1	A (Degree Plans)	3	5.30
	MA	7.2	7.4	7.3	7.3	B (ACT Composite)	3	22.55
	BA	7.1	7.3	7.4	7.3	AB	9	2.97
	JC	6.8	7.2	7.3	7.3			
Social	Prof.	5.7	5.8	5.7	5.4	A (Degree Plans)	3	51.36*
	MA	5.7	5.6	5.6	5.3	B (ACT Composite)	3	10.53
	BA	5.5	5.4	5.3	5.2	AB	9	1.32
	JC	5.1	5.1	4.9	5.0			
Nonconventional	Prof.	5.5	5.7	5.6	5.2	A (Degree Plans)	3	29.86*
	MA	5.6	5.5	5.3	5.1	B (ACT Composite)	3	19.94
	BA	5.4	5.2	5.1	4.9	AB	9	1.25
	JC	5.1	5.1	5.0	4.8			

*$p < .01$

Reasons for Choosing A College

The percentages of students in each group who rated each influence as a "major consideration" in their choice of college are shown in Table 7. There were general trends for students with higher degree plans, whatever their academic aptitude, to give less consideration to their colleges' low cost or proximity to home. Students with higher ACT Composite Scores gave less consideration to the advice of parents, high school teachers, or high school counselors, suggesting that they were less dependent on adults in making their decisions. Students with both higher degree goals and higher ACT Composite Scores gave greater consideration to their colleges' high scholastic standards.

The over-aspirers placed greater importance on financial aid offers and gave less consideration than other groups to the presence of a special curriculum. Under-aspirers gave greater consideration to their colleges' low cost and gave less consideration to their high scholastic standards or the presence of fraternities and sororities. These results suggest that the reasons students select a college are influenced both by their academic ability and their degree plans.

TABLE 7

Percentage of Students Indicating Each Reason as a Major Consideration in Their Choice of College

		ACT Composite			
Reason	*Degree Plan*	*14 or less*	*15–19*	*20–24*	*25 plus*
High scholastic standards	Prof.	54	61	66	77
	MA	54	59	64	71
	BA	54	53	58	66
	JC	45	46	48	46
Special curriculum	Prof.	48	58	65	65
	MA	56	63	64	63
	BA	53	54	58	59
	JC	50	55	57	59
Low cost	Prof.	30	30	26	26
	MA	28	30	32	30
	BA	36	34	35	35
	JC	41	40	45	53
Financial aid offers	Prof.	37	28	28	31
	MA	28	26	26	31
	BA	27	25	25	27
	JC	24	20	20	21
Social opportunities	Prof.	35	36	35	32
	MA	32	36	33	33
	BA	33	34	34	34
	JC	33	34	29	30

Reason	*Degree Plan*	ACT Composite *14 or less*	*15–19*	*20–24*	*25 plus*
Presence of fraternities & sororities	Prof.	12	13	10	07
	MA	13	10	07	05
	BA	11	08	08	06
	JC	13	08	06	03
Close to home	Prof.	33	32	27	23
	MA	32	36	30	27
	BA	39	40	37	32
	JC	48	50	50	49
Advice of parents	Prof.	38	37	33	25
	MA	42	38	30	29
	BA	38	37	34	32
	JC	43	37	31	35
Advice of high school teacher	Prof.	33	31	28	21
	MA	35	29	23	21
	BA	31	26	22	21
	JC	35	28	20	24
Advice of high school counselor	Prof.	42	44	40	32
	MA	46	38	31	31
	BA	44	36	32	30
	JC	45	38	27	31

Major and Vocational Choices

We also studied the major field choices within different levels of academic ability. These comparisons (not shown to conserve space) showed that the high-ability students planned majors in science and engineering much more frequently than low-ability students, while low-ability students more frequently planned majors in education. Among students who planned junior college degrees, low-ability students more often planned education majors, while high-ability students more often planned arts and humanities majors. There were no other important differences in choice of major field. The pattern of vocational choices was very similar to that of major field.

Discussion

The results on the previous pages have shown students with discrepant academic aptitude and degree plans to be similar on many variables to students whose degree plans and academic aptitude were not discrepant. There was, however, an important difference in nonacademic achievement. The over-aspirers had the highest achievement in several nonacademic areas and had the second highest total nonacademic achievement. The only area in which they scored low was writing—but this area of achievement is probably related to the English usage and reading skills which compose part of the ACT Composite

Score. Furthermore, in some schools, only students with high grades are eligible to work on the school paper or annual. These results suggest that students with high degree plans may form their plans on the basis of their academic ***and*** nonacademic successes. The experience of holding a student office, winning an art or music prize, participating in a play, competing in a science fair, etc., may encourage students to think of themselves as appropriate candidates for advanced degrees. Conversely, students who do not participate in such activities may not develop such a conception of themselves, even when they possess a great deal of academic aptitude.

The figures on family income suggested that under-aspiration and over-aspiration were only slightly related to socio-economic status. This contradicts the stereotypes of over-aspirers as untalented, wealthy students and under-aspirers as poor, talented students. Experiences of success are possibly more important than socio-economic background variables.

The under-aspirers seemed to choose nonconventional goals less often than other groups and gave less weight to high scholastic standards in choosing a college. Possibly these differences reflect a low interest in meeting challenging situations.

On most of the variables, however, students with similar degree plans were more alike than they were like students with similar academic aptitude. Students seemed to form their degree aspirations on many factors associated with occupational choice in addition to academic aptitude. The academically less talented students who aspired to high level degrees tended to indicate different majors and vocations than students with higher aptitudes. The low aptitude students were particularly likely to plan to enter education, while the high aptitude students were more likely to indicate the traditional professions of law and medicine. Perhaps ability is more related to choice of field than to level of degree aspiration (see Davis, 1964 and Baird, 1968).

In any case, the choice of level of degree is clearly not dependent on academic ability alone. Success in nonacademic areas also seems to have a considerable effect on aspiration. Perhaps this is to be expected since degree goal is an important decision influenced by a complex and interrelated pattern of dynamic factors unique to each youth. This study attempted to add information which will unravel a bit more of the enigma which is educational aspiration.

Study Two:

Students With Discrepant Family Income and Ambitions

People have long been intrigued by "Horatio Alger" stories of sharp rises in social status. People have also been intrigued by stories of persons who assume a much lower social status than that of their families. These stories have important psychological effects for people in the United States (Lipset and Bendix, 1959). They have helped shape our opinions about the characteristics of people who "rise" above or "fall" below their family's level. Considerable research has been done by sociologists and others on the traits of such people. Much of this research has specifically related status change to educational aspiration. (For example, see the extensive listing in Sewell, Haller, and Straus, 1957; and Sewell, 1964; also the discussion in Jencks and Reisman, 1968.)

Most of the studies cited above have used college attendance as the aspiration variable in relation to various socio-economic background factors. The present study was more specific and was designed to provide some information about students with discrepant family income and a scale of college degree goals ranging from the junior college degree to doctoral or professional level degrees. Other studies of the relation between this pair of variables (e.g., Davis, 1964; Werts, 1966; Baird, 1967, 1968) have consistently shown family income and social class to be related to degree expectations. We can therefore describe as discrepant the combinations of low family income and high degree goals, and high family income and low degree goals. In the present study the responses of students on a wide variety of measures were examined to reveal the factors which have led to their unusual degree expectations. Additional research findings would be useful, not only to assess further the factors in social mobility, but to provide an understanding of the dynamics of aspiration and also to suggest possible special treatment for students with widely discrepant aspirations and family backgrounds.

Method

Sample

The sample is the same as that used in Study One. The N's used in the present analyses are smaller, however, because some students did not know their family income, or considered such information confidential, and were excluded from the calculations. This procedure left a sample of 15,535 students.

Formation of Groups

Students were categorized by four degree goal levels and four family income levels, resulting in 16 groups altogether. The degree goal levels were the same as the previous study: junior college degree or equivalent, bachelor's, master's, and professional level (PhD, LLB, MD, DDS). The four levels of yearly family income were based on students' estimates. The levels were: less than $5,000; $5,000–$9,999; $10,000–$14,999; and $15,000 or higher. The approximate median family income for each of these groups was: $3,425; $7,175; $12,500; and $19,850 respectively.

We were especially interested in two groups of students: those from families with incomes below $5,000 who planned to attain professional level degrees and those students from families with incomes of $15,000 or higher who sought junior college degrees or the equivalent.

Statistics and Measures

The statistics and all other measures used were the same as those described in Study One.

Results

General

Table 8 shows the number and percentage distributions of degree plans of students in each family income category. There was a slight positive association between family income and degree plans (gamma = .149). Thus, while a greater percentage of low income than high income students planned junior college degrees, and a slightly greater percentage of high income than low income students planned professional level degrees, the differences were certainly not as large as might be expected. By far the largest percentage of students planned bachelor's degrees regardless of family income. Although more students who planned junior college degrees came from low income families, almost exactly the same number of students who planned professional level degrees came from the lowest as well as the highest income categories.

TABLE 8

The Distribution of Degree Expectations Within Family Income Groups

Degree Plan	*Less than $5,000*	*$5,000–9,999*	*$10,000–14,999*	*$15,000 plus*
Prof.	10.7	11.0	12.3	17.3
	(305)	(810)	(431)	(313)
MA	20.3	25.1	28.1	28.3
	(578)	(1850)	(988)	(512)
BA	47.9	49.6	49.3	46.3
	(1365)	(3650)	(1730)	(837)
JC	21.1	14.3	10.3	8.1
	(603)	(1054)	(363)	(146)
Total N	2851	7364	3512	1808

Note: N's are shown in parentheses.

Academic Achievement

Table 9 shows the mean ACT Composite Scores by family income and degree plan. As the F tests indicate, the ACT Composite Scores were higher among the groups with higher degree goals and groups with higher family incomes. However, it is interesting that the students with the highest absolute means were in the $10,000 to $15,000 family income class rather than the students who were in the highest

income group. The significant interaction effect was probably due to the greater differences between levels of family income among students with high degree goals, as compared with students who had low degree goals.

TABLE 9

Academic Aptitude and High School Grades of Students by Degree Aspiration and Family Income

	Mean ACT Composite Family Income			
Degree Plan	*Less than $5,000*	*$5,000–9,999*	*$10,000–14,999*	*$15,000 plus*
Prof.	19.7	21.6	23.2	23.0
MA	19.9	21.9	22.3	22.1
BA	18.5	20.0	20.2	19.9
JC	14.8	16.6	16.7	16.3

Source	*df*	*F*
A (Degree Plan)	3	648.33*
B (Family Income)	3	106.00*
AB	9	4.87*

*$p < .01$

Nonacademic Achievements

The mean nonacademic achievement scores of the various groups of students are shown in Table 10. The F values were significant between levels of degree plans and achievement in science, writing, leadership, and dramatic art; in all of these areas of achievement there was complete monotonicity with mean scores invariably increasing by level of degree plan. There were no significant differences between levels of degree plans in music and art. None of the F values were significant between levels of income and any area of nonacademic achievement.

Background

Table 11 shows the percent of each group which came from a farm or community with a population of less than 50,000. There was a slight tendency for students with lower degree goals to come from rural or small town backgrounds, however, this association may be largely spurious since such backgrounds were more strongly related to low family income.

Educational Goals

The means of the groups on the educational goals are shown in Table 12. Although the differences between the various means do not appear to be large, the F values indicate that scores were significantly related to degree goals. There was some tendency for students with higher degree goals to place more importance on each type of goal, although there was usually little difference between master's degree and professional level students. The interaction effect on academic goals was probably mostly due to the low scores of the group with high incomes who were seeking junior college degrees.

TABLE 10

Mean Nonacademic Achievement of Students by Degree Aspiration and Family Income

Area of Achievement	*Degree Plan*	*Less Than $5,000*	*$5,000–9,999*	*$10,000–14,999*	*$15,000 Plus*
Science	Prof.	1.34	1.49	1.40	1.68
	MA	.94	1.08	1.10	1.06
	BA	.80	.78	.83	.85
	JC	.67	.58	.50	.59
Leadership	Prof.	2.86	2.68	2.89	3.08
	MA	2.76	2.60	2.60	2.57
	BA	2.23	2.15	2.15	2.39
	JC	1.98	1.69	1.72	1.81
Art	Prof.	.57	.83	.73	.70
	MA	.77	.81	.81	.85
	BA	.65	.68	.73	.84
	JC	.67	.66	.83	1.12
Music	Prof.	1.74	1.83	2.05	1.71
	MA	1.84	1.71	1.78	1.73
	BA	1.62	1.55	1.61	1.72
	JC	1.41	1.19	1.48	1.63
Writing	Prof.	1.36	1.47	1.49	1.52
	MA	1.40	1.19	1.22	1.33
	BA	1.08	.89	.93	1.08
	JC	.88	.64	.67	.84
Dramatic Art	Prof.	1.94	1.54	1.62	1.60
	MA	1.66	1.45	1.28	1.48
	BA	1.39	1.19	1.14	1.18
	JC	1.35	1.02	.93	.94

Source	*df*	*F*
A (Degree Plans)	3	94.18*
B (Family Income)	3	1.42
AB	9	1.56
A (Degree Plans)	3	83.86*
B (Family Income)	3	3.04
AB	9	.99
A (Degree Plans)	3	2.46
B (Family Income)	3	5.71
AB	9	2.14
A (Degree Plans)	3	10.87
B (Family Income)	3	1.63
AB	9	1.31
A (Degree Plans)	3	74.62*
B (Family Income)	3	4.08
AB	9	1.13
A (Degree Plans)	3	69.41*
B (Family Income)	3	22.69
AB	9	1.01

*$p < .01$

TABLE 11

Percent from Farm or Open Country or Town of Less Than 50,000 by Degree Plan and Income

Degree Plan	*Less Than $5,000*	*$5,000–9,999*	*$10,000–14,999*	*$15,000 Plus*
Prof.	48	39	31	27
MA	57	41	32	27
BA	61	47	34	28
JC	61	49	38	37

TABLE 12

Means on Scales of College Goals by Degree Plans and Family Income

Type of Goal	*Degree Plan*	*Less Than $5,000*	*$5,000–9,999*	*$10,000–14,999*	*$15,000 Plus*	*Source*	*df*	*F*
Academic	Prof.	6.7	6.6	6.8	6.8	A (Degree Plans)	3	156.60*
	MA	6.8	6.8	6.7	6.8	B (Family Income)	3	14.07
	BA	6.4	6.3	6.4	6.5	AB	9	5.13
	JC	5.9	5.8	5.9	5.7			
Social	Prof.	5.6	5.6	5.6	5.6	A (Degree Plans)	3	45.64*
	MA	5.6	5.6	5.5	5.6	B (Family Income)	3	4.33
	BA	5.5	5.3	5.3	5.4	AB	9	1.44
	JC	5.3	5.0	4.8	5.0			
Vocational	Prof.	7.3	7.2	7.3	7.2	A (Degree Plans)	3	26.73*
	MA	7.3	7.4	7.3	7.4	B (Family Income)	3	.62
	BA	7.3	7.3	7.3	7.2	AB	9	1.31
	JC	7.1	7.2	6.9	7.0			
Nonconventional	Prof.	5.6	5.3	5.5	5.6	A (Degree Plans)	3	27.72*
	MA	5.4	5.3	5.1	5.3	B (Family Income)	3	8.79
	BA	5.3	5.1	5.1	5.1	AB	9	1.53
	JC	5.3	5.0	4.8	4.9			

*$p < .01$

Reasons for Choice of College

The percentages of students who indicated each reason as a major consideration in their choice of college are shown in Table 13. There was little difference between the groups' ratings of the importance of special curricula, social opportunities, or the presence of fraternities or sororities. Students with higher degree plans gave more importance to the high scholastic standards of the college and a financial aid offer but placed less importance on the college's low cost or closeness to home. However, students from lower income families gave more importance to low cost and closeness to home. The low income-high aspiration group was closer to other students from low income homes on both of these items than it was to students with similar degree plans.

All of the groups attributed about the same importance to the influence of parents and high school teachers. However, the low income-high aspiration students rated counselors as an influence slightly more frequently than any other group.

The group with high income seeking junior college degrees gave the lowest ratings of any group to the influence of their colleges' high scholastic standards, a financial aid offer, or social opportunities. They placed slightly greater importance than other groups on the presence of fraternities and sororities.

TABLE 13

Percentage of Students Indicating Each Reason as a Major Consideration in Their Choice of College

Reason	*Degree Plan*	*Less Than $5,000*	*$5,000–9,999*	*$10,000–14,999*	*$15,000 Plus*
Low cost	Prof.	41	33	24	13
	MA	44	35	28	20
	BA	47	40	30	18
	JC	48	43	43	28
Close to home	Prof.	36	31	26	17
	MA	38	33	30	24
	BA	43	41	36	29
	JC	49	52	54	39
High scholastic standards	Prof.	64	68	68	72
	MA	65	65	63	66
	BA	58	58	55	56
	JC	48	48	41	31
Special curriculum	Prof.	61	64	61	65
	MA	62	65	60	61
	BA	55	56	58	58
	JC	50	56	56	54
Financial aid offer	Prof.	42	35	25	21
	MA	37	31	23	16
	BA	34	28	22	16
	JC	28	21	15	08
Social opportunities	Prof.	33	31	35	39
	MA	30	31	35	40
	BA	32	32	35	39
	JC	31	34	29	29
Presence of fraternities & sororities	Prof.	10	08	09	13
	MA	07	06	08	12
	BA	08	07	09	10
	JC	10	08	08	15
Advice of high school counselor	Prof.	42	41	37	34
	MA	38	33	33	34
	BA	38	34	31	34
	JC	40	38	33	35

TABLE 13 (Continued)

Reason	*Degree Plan*	*Less Than $5,000*	*$5,000–9,999*	*$10,000–14,999*	*$15,000 Plus*
Advice of parents	Prof.	33	32	29	30
	MA	32	31	31	29
	BA	36	32	33	36
	JC	40	36	33	32
Advice of high school teacher	Prof.	29	30	26	24
	MA	31	24	23	21
	BA	29	25	22	22
	JC	32	29	23	24

Major Field and Vocational Choice

The major field choices of students who planned junior college degrees appeared unrelated to family income. (These figures are not shown, to conserve space.) Among those planning professional level degrees, however, family income was related to major field choices. Students from wealthier families more frequently planned pre-law and pre-medical majors, while students from low-income families more often planned education majors. Of course, there were differences associated with level of degree. Students planning junior college degrees more frequently proposed majors in business, finance, trade, and industry and were more often undecided, while those planning advanced degrees more often proposed majors in social science, science, and health fields. Vocational choices followed a similar pattern.

Discussion

The most obvious general trend in these results is that students with discrepant family incomes and degree goals were more like other students with the same degree goals than they were like students from families with similar incomes. In a few comparisons the differences between degree goals were accentuated for the students with discrepant family income and degree goals. Thus, although there was a positive relation between family income and degree plans, income alone did not seem to be as powerful a determinant of degree plans as other characteristics considered singly.

Within this sample, there was a slight positive association between family income and the ACT Composite Score. This suggests that the students from less wealthy families who aspired to high level degrees were over-achievers, while students from wealthy families who aspired to low level degrees were under-achievers. These results also suggest that these students vary in general "drive" and motivation to achieve. This idea gains support from the scores of these groups on the nonacademic achievement scales. The level of involvement in nonacademic achievement also suggests that the students with higher degree goals had enthusiasm as well as a high activity level. Thus a number of variables suggest that students of low family income who plan various degrees select appropriate goals and see themselves as potential holders of those degrees.

The students from wealthy homes who planned only a junior college degree had low ACT Composite Scores and generally low scores on the nonacademic achievement scales, except in art. When they chose a college, they placed less importance on high scholastic standards or financial aid offers (they were probably unlikely to have received such offers). These students seem to have selected reasonably appropriate degree goals, in terms of their abilities and other characteristics.

Educational goals (academic, social, vocational, and nonconventional) seemed to be slightly related to aspirations, but not to income. Other studies (e.g., Baird, 1967, 1968) have found educational goals to be related both to income and degree plans. Perhaps students respond to these goals in terms of their social acceptability, or perhaps such educational values have less educational and psychological relevance than is sometimes assumed.

On a larger scale, the fact that many students from low income families planned professional level or master's level degrees supports the belief in the upward social mobility of American society. Thus, 60 percent of the students planning a professional level degree came from families with incomes below $10,000. Of course, these students were just entering college. It is possible that the low family income of some students would hinder the attainment of their degree goals. Davis (1965), for example, has shown that recruitment and retention for law and medicine are associated with higher socio-economic status. Astin (1964) found that dropping out of college was associated with low family income, even among National Merit Scholars.

Finally, students with discrepant family income and degree plans generally seem to have chosen appropriate degree goals, considering their other characteristics. That is, students with similar degree plans were more like one another than they were like students from families with similar incomes, suggesting that there is a pool of talented students who, at the beginning of college, plan to obtain advanced degrees and enter the professions regardless of family income. The extent to which they attain these goals contributes greatly to social and economic mobility within American society.

Conclusions

These two studies have accentuated the importance of degree aspirations as related to students' values, reasons for choosing colleges, and major field and vocational choices. It follows that degree goals affect the way students adapt to the college experience. Considered in this light, they are undoubtedly an important component of a "self-fulfilling prophecy" embodied in attainment of degrees and entrance into professions by persons from all socio-economic strata. In these studies, degree aspirations seemed to be relatively independent of the influence of either academic ability or family income, two powerful variables. Therefore, on the basis of these findings aspiration can be considered an important predictor in its own right. (This conclusion agrees with the theoretical ideas of Allport and Erikson, mentioned before.) Its predictive value as a single variable of such behaviors as college success and degree attainment, though, should not be overestimated. We are suggesting that degree aspiration can be added to the list of independent variables that " . . . are simply predictors which gain their predictive power through their association with other variables" (Herriot, 1963).

Another major conclusion of these studies is that students' aspirations appear to be based, at least to some degree, on their experiences of success in high school. Students' academic and nonacademic (or extracurricular) accomplishments seem to have a pronounced impact on students' aspirations. Thus, extracurricular activity is not just an unimportant supplement to the academic side of high school. For

many students, it may be the primary area of satisfaction and accomplishment, and therefore may have strong effects on their conception of themselves and their abilities. This is another reason for regarding nonacademic achievement as important as classroom achievement. The importance of such successful accomplishments also suggests that students who do not plan to reach an educational level commensurate with their capacity may need experiences of success to revise their ideas of themselves. While this suggestion applies most directly to under-aspirers, it may also be meaningful for over-aspirers. Talent is, after all, a multifaceted concept. Attainment of higher education degrees expresses successful use of only part of the vast range of human talents. Over-aspirers in terms of degree attainment are not necessarily over-aspirers in many other areas of potential success—e.g., social service. Redefinition and changes in goals should be viewed as lateral, not downward, revisions.

REFERENCES

Allport, G. W. *Patterns and growth in personality.* New York: Holt, 1961.

American College Testing Program. *ACT technical report.* Iowa City, Iowa: Author, 1965.

American College Testing Program. *College student profiles: norms for the ACT assessment.* Iowa City, Iowa: Author, 1966.

Astin, A. W. Personal and environmental factors associated with college dropouts among high aptitude students. *Journal of Educational Psychology,* 1964, **55**, 219-227.

Baird, L. L. *Family income and the characteristics of college-bound students.* ACT Research Report No. 17. Iowa City: American College Testing Program, 1967. (a)

Baird, L. L. The achievements of bright and average students. *Educational and Psychological Measurement,* 1968, **28**, 891-899.

Baird, L. L. The degree goals of college applicants. *College and University*, 1968, **43**, 308-327.

Baird, L. L. *The educational goals of college-bound youth.* ACT Research Report No. 19. Iowa City: American College Testing Program, 1967. (b)

Baird, L. L., & Holland, J. L. The flow of high school students to schools, colleges and jobs: a re-examination of some old questions by the use of multiple indices of talent. *The Journal of Human Resources,* 1968, **4**, 22-37.

Chickering, A. W. *Education and identity.* San Francisco: Jossey-Bass, 1969.

Davis, J. A. *Great aspirations: the graduate school plans of America's college seniors.* Chicago: Aldine, 1964.

Davis, J. A. *Undergraduate career decisions: correlates of occupational choice.* Chicago: Aldine, 1965.

Erikson, E. H. *Insight and responsibility.* New York: Norton, 1964.

Goodman, L. A., & Kruskal, W. H. Measures of association for cross classifications. *American Statistical Association Journal,* 1954, **49,** 732-764.

Herriot, R. E. Some social determinants of educational aspiration. *Harvard Educational Review,* Spring, 1963, 157-77.

Jencks, C. Social stratification and higher education. *Harvard Educational Review,* 1968, **38,** No. 2.

Jencks, C., & Reisman, D. *The academic revolution.* Garden City, New York: Doubleday & Company, Inc., 1968.

Lipset, S. M., & Bendix, R. Social mobility in industrial society. Berkeley, Calif.: University of California Press, 1959.

Sewell, W. H. Community of residence and college plans. *American Sociological Review,* 1964, **29,** 24-38.

Sewell, W. H., Haller, A. O., & Straus, M. A. Social status and educational and occupational aspiration. *American Sociological Review,* 1957, **22,** 67-73.

Thorndike, R. L. *The concepts of over- and under-achievement.* Bureau of Publications, Teachers College, Columbia University, 1963.

Trow, M. The campus viewed as a culture, in H. T. Sprague (Ed.) *Research on college students.* Boulder, Colo.: The Western Inter-state Commission for Higher Education, 1960, 105-123.

Werts, C. E. Social class and initial career choice of college freshmen. *Sociology & Education,* 1966, **39,** 74-85.

Winer, B. J. *Statistical principles in experimental design.* New York: McGraw-Hill, 1962.

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